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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,715	01/05/2004	Gary G. Churan	9301-81	2262
7590 12/22/2005 Mitchell S. Bigel Myers Bigel Sibley & Sajovec, P.A. P. O. Box 37428 Raleigh, NC 27627			EXAMINER TRAN, DALENA	
			ART UNIT 3661	PAPER NUMBER

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/751,715	CHURAN, GARY G.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dalena Tran	3661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22, 28, 29, 32-56, 62, 63 and 66-69 is/are rejected.
- 7) ☒ Claim(s) 23-27, 30, 31, 57-61, 64 and 65 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |



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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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EXAMINER
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ART UNIT	PAPER
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20051216

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

## DETAILED ACTION

### Notice to Applicant(s)

1. This office action is responsive to the amendment filed on 10/11/05. Claims 1-69 are pending.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10, 15, and 45, are rejected under 35 U.S.C. 102(b) as being anticipated by Wiedeman et al. (5594780).

As per claim 10, Wiedeman et al. discloses a terrestrial wireless network for a cellular wireless communications system comprising: a plurality of terrestrial base stations that are configured to transmit wireless communications including global Positioning System (GPS) data to mobile terminals over a satellite frequency band (see columns 2-3, lines 65-49).

As per claim 15, Wiedeman et al. discloses the terrestrial base stations comprise terrestrial cellular network base stations, ancillary terrestrial network base stations and/or access points of a wireless local and/or wide area network (see the abstract).

Claim 45, is a method claims corresponding to system claim 10 above. Therefore, it is rejected for the same rationales set forth as above.

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4. Claims 17, 21, 51, and 55, are rejected under 35 U.S.C. 102(e) as being anticipated by Fattouche et al. (6208297).

As per claim 17, Fattouche et al. discloses a mobile terminal comprising: a receiver that is configured to receive wireless communications including Global Positioning System (GPS) data over a satellite frequency band that is outside a GPS frequency band (see columns 5-6, lines 46-23); and a processor that is configured to perform pseudo-range measurements using the GPS data that is received over the satellite frequency band that is outside the GPS frequency band (see columns 6-7, lines 24-34).

As per claims 21, Fattouche et al. disclose a mobile terminal comprising: a receiver that is configured to receive Global Positioning System (GPS) C/A signals from a plurality of GPS satellites (see columns 2-3, lines 41-43), and a processor that is configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 20-21, lines 3-38).

Claims 51, and 55, are method claims corresponding to system claims 17, and 21 above. Therefore, they are rejected for the same rationales set forth as above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 11-15, 36-41, and 46-50, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman et al. (5594780) in view of Sheynblat et al. (6121928).

As per claim 1, Wiedeman et al. disclose a wireless communications system comprising: a terrestrial wireless network that is configured to transmit wireless communications including Global Positioning System (GPS) data over a satellite frequency band (see the abstract; and column 4, lines 20-67). Wiedeman et al. do not disclose pseudo-range measurements. However, Sheynblat et al. disclose a mobile terminal that is configured to receive the wireless communications including the GPS data from the terrestrial wireless network over the satellite frequency band and to perform pseudo-range measurements using the GPS data that is received over the satellite frequency band (see columns 4-5, lines 29-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Wiedeman et al. by combining pseudo-range measurements for determining a position of an object.

Also, as per claims 2, and 3, Sheynblat et al. disclose a network operations center and wherein the mobile terminal is further configured to transmit the pseudo-range measurements to the network operations center, the network operations center is configured to receive the pseudo-range measurements and to determine a position of the mobile terminal using the pseudo-range measurements (see columns 2-3, lines 29-32).

As per claim 4, Wiedeman et al. disclose the network operations center is further configured to transmit the position of the mobile terminal to the mobile terminal (see columns 2-3, lines 65-49).

As per claim 5, Wiedeman et al. do not disclose pseudo-range measurements. However, Sheynblat et al. disclose a mobile terminal that is configured to transmit the pseudo-range measurements to the network operations center via the terrestrial wireless network (see columns

4-5, lines 29-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Wiedeman et al. by combining pseudo-range measurements for determining a position of an object.

Also, as per claim 6, Sheynblat et al. disclose a space-based component that is configured to wirelessly communicate with the mobile terminal over the satellite frequency band and wherein the mobile terminal is configured to transmit the pseudo-range measurements to the network operations center via the space-based component (see columns 3-4, lines 33-26).

As per claim 11, Wiedeman et al. do not disclose pseudo-range measurements. However, Sheynblat et al. disclose wherein the plurality of terrestrial base stations are further configured to receive pseudo-range measurements from mobile terminals over the satellite frequency band (see columns 2-3, lines 29-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Wiedeman et al. by combining pseudo-range measurements for determining a position of an object.

Also, as per claims 12-13, Sheynblat et al. discloses a network operations center and wherein the plurality of terrestrial base stations are further configured to transmit the pseudo-range measurements to the network operations center, and the network operations center is configured to receive the pseudo-range measurements and to determine a position using the pseudo-range measurements (see columns 5-7 lines 36-5).

As per claim 14, Wiedeman et al. discloses the network operations center is further configured to transmit the position of the mobile terminal to the mobile terminal (see columns 2-3, lines 65-49).

As per claim 15, Wiedeman et al. discloses the terrestrial base stations comprise terrestrial cellular network base stations, ancillary terrestrial network base stations and/or access points of a wireless local and/or wide area network (see the abstract).

Claims 36-41, and 46-49 are method claims corresponding to system claims 1-6, and 11-14 above. Therefore, they are rejected for the same rationales set forth as above.

7. Claims 7-9, 16, 42-44, and 50, are rejected under 35 U.S.C.103(a) as being unpatentable over Wiedeman et al. (5594780), and Sheynblat et al. (6121928) as applied to claim 1 above, and further in view of Counselman, III (5805200).

As per claim 7, Wiedeman et al., and Sheynblat et al. do not disclose GPS coarse/acquisition (C/A) signals. However, Counselman, III discloses the mobile terminal is further configured to receive GPS coarse/acquisition (C/A) signals from a plurality of GPS satellites, to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 6-7, lines 12-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Wiedeman et al. by combining GPS coarse/acquisition (C/A) signals for determining position from pseudorandom code modulated signal.

As per claim 8, Counselman, III discloses the GPS data that is received from the terrestrial wireless network includes a Doppler shift that is measured at the terrestrial wireless network and a code phase that is measured at the terrestrial wireless network and wherein the mobile terminal is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the

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terrestrial wireless network and to estimate the code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 7-8, lines 26-48).

As per claims 9, and 16, Krasner discloses the satellite frequency band is outside the GPS frequency band (see columns 7-8, lines 35-65).

Claims 42-44, and 50 are method claims corresponding to system claims 7-9, and 16 above. Therefore, they are rejected for the same rationales set forth as above.

8. Claims 18, 32, 52, and 66, are rejected under 35 U.S.C.103(a) as being unpatentable over Fattouche et al. (6208297) in view of Sheynblat et al. (6121928).

As per claim 18, Fattouche et al. do not disclose transmit the pseudo-range measurements over the satellite frequency band that is outside the GPS frequency band. However, Sheynblat et al. discloses a transmitter that is configured to transmit the pseudo-range measurements over the satellite frequency band that is outside the GPS frequency band (see columns 5-7 lines 36-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Fattouche et al. by combining transmit the pseudo-range measurements over the satellite frequency band that is outside the GPS frequency band for tracking position of mobile terminal over the wireless network.

Also, as per claim 32, Sheynblat et al. discloses the receiver is further configured to receive from a wireless network a Doppler shift that is measured at the wireless network and a code phase that is measured at the wireless network and wherein the processor is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the wireless network and to

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estimate the received code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 9-10, lines 40-13).

Claims 52, and 66 are method claims corresponding to system claims 18, and 32 above. Therefore, they are rejected for the same rationales set forth as above.

9. Claims 19-20, 22, 28, 53-54, and 56 are rejected under 35 U.S.C.103(a) as being unpatentable over Fattouche et al. (6208297) in view of Counselman, III (5805200).

As per claim 19, Fattouche et al. do not disclose discloses GPS C/A signals. However, Counselman, III discloses wherein the receiver is further configured to receive GPS C/A signals from a plurality of GPS satellites and wherein the processor is further configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated (see columns 6-7, lines12-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Fattouche et al. by combing GPS coarse/acquisition (C/A) signals for determining position from pseudorandom code modulated signal.

As per claims 20, 22, Fattouche et al. do not disclose a Doppler shift, and a code phase. However, Counselman, III discloses the GPS data that is received from the terrestrial wireless network includes a Doppler shift that is measured at the terrestrial wireless network and a code phase that is measured at the terrestrial wireless network and wherein the mobile terminal is further configured to estimate residual Doppler shifts in the GPS C/A signals due to mobile terminal motion using the Doppler shift and code phase that are measured at the terrestrial wireless network and to estimate the code phases of the GPS C/A signals using the Doppler shift that is estimated (see columns 7-8, lines 26-48). It would have been obvious to one of ordinary

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skill in the art at the time the invention was made to modify the teach of Fattouche et al. by combining a Doppler shift, and a code phase that is measured at the terrestrial wireless network for accurately determine the mobile terminal position over the satellite network.

As per claim 28, Fattouche et al. disclose wherein the wireless network is a terrestrial wireless network (see columns 5-6, lines 46-23).

Claims 53-54, 56, and 62 are method claims corresponding to system claims 19-20, 22, and 28 above. Therefore, they are rejected for the same rationales set forth as above.

10. Claims 29, 33-35, 63, and 67-69 are rejected under 35 U.S.C.103(a) as being unpatentable over Fattouche et al. (6208297), and Counselman, III (5805200) as applied to claim 28, 21-22 above, and further in view of Wiedeman et al. (5594780).

As per claim 29, Fattouche et al., and Counselman, III do not disclose ancillary terrestrial network. However, Wiedeman et al. disclose the terrestrial wireless network comprises a terrestrial cellular network, an ancillary terrestrial network and/or a wireless local and/or wide area network (see the abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Fattouche et al., and Counselman, III by combining ancillary terrestrial network to accurately determining position of mobile terminal.

As per claim 33, Wiedeman et al. disclose the mobile terminal includes a GPS processor and a cellular data transceiver therein (see columns 12-13, lines 55-37).

As per claims 34-35, Wiedeman et al. disclose the mobile terminal includes a GPS processor and a cellular voice and data transceiver therein, and wherein the mobile terminal includes a GPS processor, a terrestrial cellular voice and data transceiver and a satellite cellular voice and data transceiver therein (see columns 13-14, lines 38-35).

Claims 63, and 67-69 are method claims corresponding to system claims 29, and 33-35 above. Therefore, they are rejected for the same rationales set forth as above.

11. Claims 23-27, 30-31, 57-61, and 64-65 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Remarks**

12. Applicant's argument filed on 10/11/05 has been fully considered. Upon updated search, the new ground of rejection has been set forth as above.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 571-272-6968. The examiner can normally be reached on M-F 6:30 AM-4:00 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner  
Dalena Tran



December 16, 2005